

# NINR Boot Camp

## Precision Health: From ‘Omics’ to Data Science

2016

Monday July 25, 2016

### Introduction & Significance of Precision Health and Omics Sciences

Time:	Topics:	Presenter:
8:00–8:30am	Meet, Greet, Coffee	
8:30–9:00am	Program Opener & Introductions	Mary Engler, PhD, RN, MS Training Director, National Institute of Nursing Research
9:00 – 9:30am	Welcome & Program Overview	Patricia Grady, PhD, RN, FAAN Director, National Institute of Nursing Research
9:30–10:30am	Morning Keynote: How Scientific Wellness Will Transform Healthcare	Leroy Hood, MD, PhD President and Co-founder, Institute for Systems Biology
10:30 – 10:45am	BREAK	<b>Group picture with NINR Director: Dr. Patricia Grady</b>
10:45 – 11:45am	Advancing Precision Health: A Nursing informatics research perspective	Suzanne Bakken, PhD, RN, FAAN, FACMI Professor and Director of the Center for Evidence-based Practice, Columbia University
11:45 – 12:45pm	Nutrigenomics and Precision Health	José M Ordovás, PhD Director and Professor Nutrition and Genomics, USDA at Tufts University
12:45 – 1:45pm	LUNCH	
1:45 – 2:45pm	Pharmacogenomics in Precision Health	Deanna L. Kroetz, PhD Professor, University of California, San Francisco
2:45 – 3:45pm	Translational Bioinformatics	Zhongming Zhao, PhD, MS Dr. Doris L. Ross Professor & Director, Center for Precision Health, School of Bioinformatics, University of Texas Health Science Center at Houston
3:45 – 4:00pm	BREAK	
4:00 – 5:00pm	Afternoon Keynote: Precision Health vs Precision Medicine	Lloyd Minor, MD Carl and Elizabeth Naumann Dean, Stanford University School of Medicine
5:00– 5:15pm	Questions / Closing Remarks	

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Tuesday July 26, 2016  
Clinical Omics and Precision Medicine

Time:	Topics:	Presenter:
8:00 – 8:30am	Coffee & Networking	
8:30–9:30am	Clinomics at the Mayo Clinic: New Frontiers in Patient Care	Eric D. Wieben, PhD Professor and Co-Director of Clinomics, Mayo Clinic
9:30–10:30am	Cancer as a Disease of the Metaorganism	Giorgio Trinchieri, MD Senior Investigator Cancer and Inflammation Program, National Cancer Institute, NIH
10:30 – 10:45am	BREAK	
10:45-11:45am	The Impact of Precision Medicine on Outcomes, Quality and Safety Monitored by Nurses	Kathleen McCormick, PhD, RN, FACMI, FAAN, FHIMSS, HIMSS Principal/Owner, SciMind, LLC
11:45 – 12:45pm	Pharmacogenomics: Discovery to Implementation	Richard Weinshilboum, MD Professor of Pharmacology and Medicine and Mary Lou and John H. Dasburg Professor of Cancer Genomics Research at Mayo Clinic
12:45-1:30pm	LUNCH	
1:30-2:30pm	Accelerating Precision Health for All: The Precision Medicine Initiative Cohort Program	Eric Dishman, PhD Director of the Precision Medicine Initiative Cohort Program, NIH
2:30-2:40pm	Break into groups	
2:40 – 4:00pm	<u>Breakout Session 1:</u> 1. Nursing Informatics 2. Pharmacogenomics 3. Microbiomics	Kathleen McCormick, PhD, RN, FACMI, FAAN Deanna Kroetz, PhD Giorgio Trinchieri, MD/Amiran Dzutsev, PhD
4:00-4:15pm	BREAK	
4:15– 5:30pm	<u>Breakout Session 2:</u> Introduction to Clinical Genomics	Medha Bhagwat, PhD Bioinformatics Support Program Coordinator/Informationist NIH Library

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Wednesday July 27, 2016  
Ethical, Legal, and Social Implications and Informatics

Time:	Topics:	Presenter:
8:00 – 8:30am	Coffee & Networking	
8:30 - 9:25am	Illustrative Case Studies on the Implications of Genetic Sequencing: A Genetic Counselor’s Perspective	Katie Lewis, ScM Genetic Counselor and Protocol Coordinator, National Human Genome Research Institute, NIH
9:25 - 10:20am	At the Frontier of Big Data and Patient-Centered Care: PROs, PGD and Personalized Experiments	Erin Holve, PhD, MPH, MPP Senior Director, AcademyHealth
10:20-10:35am	BREAK	
10:35 - 11:30am	Your Genomic Privacy and Other Ethical Issues in Big Data Biology	Pilar N. Ossorio, PhD, JD Professor of Law and Bioethics, University of Wisconsin
11:30 - 12:25pm	Ethical Aspects of Team Science in Clinical Research	Connie Ulrich, PhD, RN Professor of Bioethics and Nursing University of Pennsylvania
12:25-1:10pm	LUNCH	
1:10 - 2:05pm	Clinical Research Informatics	Peter J. Embi, MD, MS, FACP, FACMI Associate Professor and Vice Chair of the Department of Biomedical Informatics, Ohio State University
2:05 - 3:00pm	Metabolomics Correlates of Cardiometabolic and Age-Related Phenotypes in the Community	Susan Cheng, MD Physician, Brigham and Women’s Hospital & Assistant Professor of Medicine, Harvard Medical School
3:00-3:15 pm	BREAK	
3:15 - 4:10pm	From Bits to Bedside: Translating Big Data into Precision Medicine and Digital Health	Dexter Hadley, MD, PhD Assistant Professor, University of California-San Francisco
4:10 - 5:05pm	Informatics Challenges and Opportunities in Building and Supporting Large Omics Projects and Molecular Clinical Testing in a Health System	Aaron Black Director of Informatics, INOVA Translational Medicine Institute

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## Precision Health: From ‘Omics’ to Data Science

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**Thursday July 28, 2016**  
**Innovating Health: From Genomics to Health Care System Models**

Time:	Topics:	Presenter:
8:00 – 8:30am	Coffee & Networking	
8:30–9:30am	Predictive Medicine and Secondary Findings	Leslie Biesecker, MD Chief & Senior Investigator, Medical Genomics and Metabolic Genetics Branch, National Human Genome Research Institute, NIH
9:30 – 10:30am	Do our genes determine what we should eat?	Ahmed El-Sohemy, PhD Professor and Canada Research Chair in Nutrigenomics, University of Toronto
10:30 – 10:45am	BREAK	
10:45–11:45pm	Data Scientists in Healthcare	Nicholas Marko, MD Chief Data Officer, Geisinger Health System
11:45 – 12:45pm	Precision Health at the INOVA Health Care System	Benjamin D. Solomon, MD Chief, Division of Medical Genomics, INOVA
12:45 – 1:45pm	LUNCH	
1:45 – 3:00pm	Breakout Session 1: 1. Clinical Genomics & Precision Health 2. Nutrigenomics 3. The Geisinger & INOVA Models for Precision Health 4. Tour NIH Clinical Center	Leslie G. Biesecker, MD Ahmed El-Sohemy, PhD Nicholas Marko, MD
3:00 – 3:15pm	BREAK	
3:15 – 4:45pm	Breakout Session 2: 1. Clinical Genomics & Precision Health 2. Nutrigenomics 3. The Geisinger & INOVA Models for Precision Health 4. Tour NIH Clinical Center	Leslie G. Biesecker, MD Ahmed El-Sohemy, PhD Nicholas Marko, MD
4:45 – 5:00pm	Closing Remarks / Questions	

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Friday July 29, 2016

### NIH Funding Opportunities and Data Science Methods Training

Time:	Topics:	Presenter:
8:30 – 9:00am	Funding Opportunities at NIH/NINR	David Banks, PhD, MPH, RN Lois Tully, PhD
9:00 - 9:30am	Funding Opportunities at NIH/NLM	Valerie Florance, PhD
9:30 - 10:00am	Funding Opportunities at NIH/NCATS	P.J. Brooks, PhD
10:00 – 10:30am	BREAK	
10:30 - 11:00am	Funding Opportunities at NIH/NCI	Shannon Hughes, PhD
11:00 - 11:30am	Funding Opportunities at NIH/NHLBI	Pankaj Qasba, PhD
(Concurrent) 10:00am - 2:30pm	<p style="text-align: center;"><b><u>Exhibits in Porter Neuroscience Atrium</u></b></p> <div style="display: flex; justify-content: space-between;"> <div>           BioDatomics/Digicon            Division of Science Policy &amp; Public Liaison (DSPPL)            Qiagen         </div> <div>           Epigenomics            GeneDx            WellDoc         </div> </div>	
12:00 – 1:00pm	LUNCH	
1:00 – 2:15pm	Data Science: R and Statistics	Lisa Federer, MLIS, MA, AHIP Research Data Informationist, NIH Library
2:15 – 2:30pm	BREAK	
2:30 – 3:45pm	Statistical Methods for Functional Genomics	Sean Davis, MD, PhD Staff Scientist, Genetics Branch, NCI
3:45 – 4:15pm	Nursing Science and Precision Health: Application of the NIH-Symptom Science Model	Ann K. Cashion, PhD, RN, FAAN Scientific Director, National Institute of Nursing Research/ NIH